

110TH CONGRESS
1ST SESSION

S. 843

To provide for the establishment of a national mercury monitoring program.

IN THE SENATE OF THE UNITED STATES

MARCH 12, 2007

Ms. COLLINS (for herself, Mr. LIEBERMAN, and Mrs. CLINTON) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

A BILL

To provide for the establishment of a national mercury monitoring program.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Comprehensive Na-
5 tional Mercury Monitoring Act”.

6 **SEC. 2. FINDINGS.**

7 Congress finds that—

8 (1) mercury is a potent neurotoxin of signifi-
9 cant ecological and public health concern;

1 (2) exposure to mercury occurs largely by con-
2 sumption of contaminated fish, and children and
3 women of childbearing age who consume large quan-
4 tities of fish are at high risk of suffering adverse ef-
5 fects;

6 (3) it is estimated that more than 630,000 chil-
7 dren born each year in the United States are ex-
8 posed to elevated methyl mercury in the womb and
9 are at risk of impaired neurological development;

10 (4) 8 percent of women in the United States of
11 childbearing age have blood mercury levels in excess
12 of values determined to be safe by the Environ-
13 mental Protection Agency;

14 (5) as of 2004, fish consumption advisories due
15 to mercury contamination have been issued for 44
16 States, including 21 statewide advisories for fresh-
17 water and 12 statewide advisories for coastal water;

18 (6) those advisories represent more than 52,000
19 square kilometers of lakes and 1,230,000 kilometers
20 of rivers;

21 (7) fish and shellfish are an important source
22 of dietary protein, and a healthy fishing resource is
23 important to the economy of the United States;

1 (8) the extent of fish consumption advisories
2 underscores the extensive human and ecological
3 health risk posed by mercury pollution;

4 (9) the interaction of mercury with the environ-
5 ment and bioaccumulation in biota are not fully un-
6 derstood;

7 (10) computer models and other assessment
8 tools predict varying effectiveness in reducing mer-
9 cury concentrations in fish, and no broad-scale data
10 sets exist to test model predictions;

11 (11) in September 2003, the Society of Envi-
12 ronmental Toxicology and Chemistry convened a
13 workshop of 32 mercury scientists to develop a sys-
14 tem to measure and document changes resulting
15 from reductions in mercury emissions in the United
16 States;

17 (12) on January 1, 2005, an article entitled
18 “Monitoring the Response to Changing Mercury
19 Deposition”—

20 (A) was published in the periodical Envi-
21 ronmental Science and Technology; and

22 (B) proposed a “holistic, multimedia, long-
23 term mercury monitoring program”;

24 (13) many regulations limiting mercury emis-
25 sions have taken effect or will soon be promulgated,

1 but scientists are not adequately measuring the envi-
2 ronmental benefits of reduced mercury emissions;

3 (14) on May 18, 2005, the Administrator of the
4 Environmental Protection Agency, using results gen-
5 erated by a computer model that were not peer re-
6 viewed or verified by actual measurements, finalized
7 the Clean Air Mercury Rule (70 Fed. Reg. 28606
8 (May 18, 2005));

9 (15) as governments advance proposals for the
10 regulation of mercury and mercury emissions, the
11 governments should document whether regulations
12 already or soon to be in effect achieve the desired re-
13 sults;

14 (16) on May 15, 2006, the Office of Inspector
15 General of the Environmental Protection Agency
16 issued a report entitled, “Monitoring Needed to As-
17 sess Impact of EPA’s Clean Air Mercury Rule
18 (CAMR) on Potential Hotspots”, and numbered
19 2006–P–0025, that states, in part—

20 (A) “Without field data from an improved
21 monitoring network, EPA’s ability to advance
22 mercury science will be limited and ‘utility-at-
23 tributable’ hotspots that pose health risks may
24 occur and go undetected”; and

1 (B) “We recommend that EPA develop
2 and implement a mercury monitoring plan to
3 (1) assess the impact of CAMR, if adopted, on
4 mercury deposition and fish tissue; and (2)
5 evaluate and refine mercury estimation tools
6 and models”;

7 (17) on January 9, 2007, numerous individuals
8 published a paper in the journal entitled “Bio-
9 Science” that identified the location of biological
10 mercury hotspots in the northeastern region of the
11 United States and the southeastern region of Can-
12 ada, including—

13 (A) David Evers and Wing Goodale of the
14 BioDiversity Research Institute in Gorham,
15 Maine;

16 (B) Charles Driscoll of Syracuse Univer-
17 sity;

18 (C) Kathleen Fallon Lambert of the Hub-
19 bard Brook Research Foundation in Hanover,
20 New Hampshire;

21 (D) Neil Kamman of the Vermont Depart-
22 ment of Environmental Conservation; and

23 (E) other concerned individuals;

24 (18) on January 9, 2007, Charles Driscoll and
25 other concerned individuals published a paper in the

1 journal entitled “BioScience” that established a link
2 between—

3 (A) mercury contamination in forest and
4 freshwater ecosystems located in the north-
5 eastern region of the United States; and

6 (B) mercury emissions generated by elec-
7 tric utilities, incinerators, and industrial proc-
8 esses; and

9 (19) those papers published in the journal enti-
10 tled “BioScience”—

11 (A) demonstrated the importance of the
12 use of mercury measurements in addition to
13 modeling results; and

14 (B) indicated the need for a comprehensive
15 nationwide mercury monitoring program.

16 **SEC. 3. DEFINITIONS.**

17 In this Act:

18 (1) ADMINISTRATOR.—The term “Adminis-
19 trator” means the Administrator of the Environ-
20 mental Protection Agency.

21 (2) ADVISORY COMMITTEE.—The term “Advi-
22 sory Committee” means the Mercury Monitoring Ad-
23 visory Committee established by section 5(a).

24 (3) ECOREGION.—The term “ecoregion” means
25 a large area of land and water that contains a geo-

graphically distinct assemblage of natural communities, including similar land forms, climate, ecological processes, and vegetation.

(4) MERCURY EXPORT.—The term “mercury export” means mercury flux from a watershed to the corresponding water body, or from 1 water body to another (e.g. a lake to a river), generally expressed as mass per unit time.

(5) MERCURY FLUX.—The term “mercury flux” means the rate of transfer of mercury between ecosystem components (e.g. between water and air), or between portions of ecosystem components, expressed in terms of mass per unit time or mass per unit area per time.

(6) SURFACE SEDIMENT.—The term “surface sediment” means sediment in the uppermost 2 centimeters of a lakebed or riverbed.

18 **SEC. 4. MONITORING PROGRAM.**

19 (a) ESTABLISHMENT.—

(1) IN GENERAL.—The Administrator, in consultation with the United States Fish and Wildlife Service, the United States Geological Survey, the Forest Service, the National Park Service, and the National Oceanic and Atmospheric Administration,

1 shall establish a national-scale mercury monitoring
 2 program.

3 (2) MONITORING SITES.—In carrying out para-
 4 graph (1), not later than 1 year after the date of en-
 5 actment of this Act, the Administrator shall select
 6 multiple monitoring sites in ecoregions of the United
 7 States.

8 (b) AIR AND WATERSHEDS.—The program under
 9 this section shall monitor long-term changes in mercury
 10 levels in the air and watersheds, including—

11 (1) at such locations or portions of locations se-
 12 lected under subsection (a)(2) as the Administrator
 13 determines to be appropriate, the measurement and
 14 recording of—

15 (A) wet mercury deposition;

16 (B) dry deposition of mercury; and

17 (C) mercury flux and mercury export; and

18 (2) at all locations selected under subsection
 19 (a)(2), the measurement and recording of the level
 20 of mercury reemitted from aquatic and terrestrial
 21 environments into the atmosphere.

22 (c) WATER AND SOIL CHEMISTRY.—The program
 23 under this section shall monitor mercury levels in water
 24 and soil chemistry, including—

1 (1) at such locations or portions of locations se-
2 lected under subsection (a)(2) as the Administrator
3 determines to be appropriate—

4 (A) extraction and analysis of sediment
5 cores; and

6 (B) measurement and recording of total
7 mercury concentrations and methyl mercury
8 concentrations throughout the water column;
9 and

10 (2) at all locations selected under subsection
11 (a)(2)—

12 (A) measurement and recording of total
13 mercury concentration, methyl mercury con-
14 centration, and percent methyl mercury in sur-
15 face sediments; and

16 (B) measurement and recording of total
17 mercury concentration and methyl mercury con-
18 centration in surface water.

19 (d) AQUATIC PLANTS AND ANIMALS.—The program
20 under this section shall monitor mercury levels in plants
21 and animals, including—

22 (1) at all locations selected under subsection
23 (a)(2), measurement and recording of—

24 (A) methyl mercury levels in yearling fish;

1 (B) mercury levels, and other scientific
 2 data relevant to assessment of the health of the
 3 fish population, in commercially or
 4 recreationally important fish; and

5 (C) mercury levels in the appropriate tis-
 6 sue in reptiles, amphibians, birds, and mam-
 7 mals; and

8 (2) at such locations or portions of locations se-
 9 lected under subsection (a)(2) as the Administrator
 10 determines to be appropriate, measurement and re-
 11 cording of mercury levels in phytoplankton, algae,
 12 zooplankton, and benthic invertebrates.

13 **SEC. 5. ADVISORY COMMITTEE.**

14 (a) ESTABLISHMENT.—There is established a sci-
 15 entific advisory committee, to be known as the “Mercury
 16 Monitoring Advisory Committee”, to advise the Adminis-
 17 trator with respect to the establishment and operation (in-
 18 cluding the location of sampling sites) of the national mer-
 19 cury monitoring program under this Act.

20 (b) MEMBERSHIP.—The Advisory Committee shall
 21 consist of at least 13 scientists who are not employees of
 22 the Federal Government, including—

- 23 (1) 3 scientists appointed by the Administrator;
- 24 (2) 2 scientists appointed by the Director of the
- 25 United States Fish and Wildlife Service;

1 (3) 2 scientists appointed by the Director of the
2 National Park Service;

3 (4) 2 scientists appointed by the Director of the
4 Forest Service;

5 (5) 2 scientists appointed by the Director of the
6 United States Geological Survey; and

7 (6) 2 scientists appointed by the Administrator
8 of the National Oceanic and Atmospheric Adminis-
9 tration.

10 **SEC. 6. REPORTS AND PUBLIC DISCLOSURE.**

11 (a) REPORTS.—

12 (1) BIENNIAL REPORT.—Not later than 2 years
13 after the date of enactment of this Act, and every
14 2 years thereafter, the Administrator shall submit to
15 Congress a report on the program under this Act.

16 (2) QUADRENNIAL ASSESSMENT.—In the sec-
17 ond biennial report submitted under paragraph (1),
18 and in the biennial report submitted every 4 years
19 thereafter, the Administrator shall include an assess-
20 ment of the reduction in mercury deposition rates
21 that would be required to be achieved in order to
22 prevent adverse ecological effects.

23 (b) AVAILABILITY OF DATA.—The Administrator
24 shall make all data obtained pursuant to this Act available
25 to the public.

1 **SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

2 There are authorized to be appropriated to carry out
3 this Act—

4 (1) for fiscal year 2008—

5 (A) to the Environmental Protection Agen-
6 cy \$9,000,000;

7 (B) to the United States Geological Survey
8 \$4,500,000;

9 (C) to the United States Fish and Wildlife
10 Service \$4,500,000; and

11 (D) to the National Oceanic and Atmos-
12 pheric Administration \$1,000,000;

13 (2) for fiscal year 2009—

14 (A) to the Environmental Protection Agen-
15 cy \$6,000,000;

16 (B) to the United States Geological Survey
17 \$3,000,000;

18 (C) to the United States Fish and Wildlife
19 Service \$3,000,000; and

20 (D) to the National Oceanic and Atmos-
21 pheric Administration \$1,000,000;

22 (3) for fiscal year 2010—

23 (A) to the Environmental Protection Agen-
24 cy \$6,500,000;

25 (B) to the United States Geological Survey
26 \$3,250,000;

1 (C) to the United States Fish and Wildlife
2 Service \$3,250,000; and

3 (D) to the National Oceanic and Atmos-
4 pheric Administration \$1,000,000; and

5 (4) such sums as are necessary for each of fis-
6 cal years 2011 through 2013 to—

7 (A) the Environmental Protection Agency;

8 (B) the United States Geological Survey;

9 (C) the United States Fish and Wildlife
10 Service; and

11 (D) the National Oceanic and Atmospheric
12 Administration.

○